

AMENDMENTS TO THE CLAIMS

Claim 1. (currently amended) A picture encoding apparatus comprising:

memory means for writing and storing an input picture from one line to another;

wavelet transform means for applying a wavelet transform in the horizontal and vertical directions each time a ~~picture stored in said memory means reaches~~ the number of lines required for the wavelet transform is stored in said memory means;

quantization means for quantizing wavelet transform coefficients obtained from said wavelet transform means; and

entropy encoding means for entropy encoding quantized coefficients from said quantization means when the number of samples of said quantization coefficients has reached the size required for entropy encoding;

said quantization means quantizing the wavelet transform coefficients, using ~~at least one of~~ weighting coefficients of a table provided at the outset for each block area in a sub-band generated ~~on~~ by the wavelet transform ~~and weighting coefficients found from one block area picture forming a picture to~~ another.

Claim 2. (original) The picture encoding apparatus according to claim 1 wherein weighting coefficients of said table of said quantization means provided from the outset for each sub-band are such that, the larger the number of sub-band splitting stages, the larger become the weighting coefficients and the higher becomes the priority placed

on the weighting coefficients, and conversely, the smaller the number of the splitting stages, the smaller become the weighting coefficients and the lower becomes the priority placed on the weighting coefficients, and such that, in sub-bands of the same splitting stage, the weighting coefficients become smaller for the high range than for the low range to decrease the priority of the weighting coefficients.

Claim 3. (original) The picture encoding apparatus according to claim 1 wherein quantization coefficients obtained from said quantization means are collected in terms of a block as a unit, and wherein, at a time point a given block is filled with quantization coefficients, entropy encoding is performed by said entropy encoding means.

Claim 4. (original) The picture encoding apparatus according to claim 3 wherein said entropy encoding means resolve quantization coefficients in said block into bit planes composed of binary data and executes arithmetic encoding depending on the occurrence probability distribution of symbols in each bit plane, and wherein the estimation of said probability distribution is performed only on data in a predetermined block.

Claim 5. (original) The picture encoding apparatus according to claim 1 wherein said input picture is split into a plurality of rectangular tiles and written in said memory means.

Claim 6. (original) The picture encoding apparatus according to claim 1

wherein said input picture is a continuous picture of a plurality of frames and wherein the input continuous picture is sequentially encoded from one frame to another.

Claim 7. (currently amended) A picture encoding apparatus comprising:

memory means for writing and storing an input picture from one line to another;

wavelet transform means for applying a wavelet transform in the horizontal and vertical directions each time a ~~picture stored in said memory means reaches~~ the number of lines required for the wavelet transform is stored in said memory means;

quantization means for quantizing wavelet transform coefficients obtained from said wavelet transform means;

block picture analysis means for analyzing the motion information in a block picture and the degree of fineness of the texture for each block area in said input picture; and

entropy encoding means for entropy encoding quantized coefficients from said quantization means when the number of samples of said quantization coefficients has reached the size required for entropy encoding;

wherein said quantization means includes means for determining ultimate weighting coefficients for quantization using both a table of weighting coefficients for each block area in a sub-band generated by the wavelet transform and weighting coefficients derived from the analyzed motion information.

Claim 8. (original) The picture encoding apparatus according to claim 7 further comprising: means for computing weighting coefficients for quantization of said block picture area using the analysis information from said block picture analysis means.

Claim 9. (original) The picture encoding apparatus according to claim 7 wherein said quantization means includes means for determining ultimate weighting coefficients for quantization using both sub-band based table weighting coefficients and weighting coefficients derived from said analysis information.

Claim 10. (original) The picture encoding apparatus according to claim 9 wherein quantization coefficients obtained from said quantization means are collected in terms of a block as a unit, and wherein, at a time point a given block is filled with quantization coefficients, entropy encoding is performed by said entropy encoding means.

Claim 11. (original) The picture encoding apparatus according to claim 10 wherein said entropy encoding means resolve quantization coefficients in said block into bit planes composed of binary data and executes arithmetic encoding depending on the occurrence probability distribution of symbols in each bit plane, and wherein the estimation of said probability distribution is performed only on data in a predetermined block.

Claim 12. (original) The picture encoding apparatus according to claim 7 wherein said input picture is split into a plurality of rectangular tiles and written in said

memory means.

Claim 13. (original) he picture encoding apparatus according to claim 7 wherein said input picture is a continuous picture of a plurality of frames and wherein the input continuous picture is sequentially encoded from one frame to another.

Claims 14-23. (canceled)

Claim 24. (currently amended) A picture encoding method comprising:

a storage step of writing and storing an input picture in memory means from one line to another;

a wavelet transform step of applying a wavelet transform in the horizontal and vertical directions each time a ~~picture stored in said memory means reaches the number of lines required for the wavelet transform is stored in said memory~~ means;

a quantization step of quantizing wavelet transform coefficients obtained from said wavelet transform step; and

an entropy encoding step of entropy encoding quantized coefficients from said quantization step when the number of samples of said quantization coefficients has reached the size required for entropy encoding;

said quantization step quantizing the wavelet transform coefficients, using ~~at least one of~~ weighting coefficients of a table provided at the outset for each block area in a sub-band generated by the ~~on-wavelet transform and weighting~~

~~coefficients found from one block area picture forming a picture to another.~~

Claim 25. (currently amended) A picture encoding method comprising:

a storage step of writing and storing an input picture in memory means
from one line to another;

a wavelet transform step of applying a wavelet transform in the horizontal
and vertical directions each time a ~~picture stored in said memory means reaches~~
~~the number of lines required for the wavelet transform is stored in said memory~~
means;

a quantization step of quantizing wavelet transform coefficients obtained
from said wavelet transform step;

a block picture analysis step of analyzing the motion information in a block
picture and the degree of fineness of the texture for each block area in said input
picture; and

an entropy encoding step of entropy encoding quantized coefficients from
said quantization step when the number of samples of said quantization
coefficients has reached the size required for entropy encoding;

wherein said quantization step determines ultimate weighting coefficients
for quantization using both a table of weighting coefficients for each block area in
a sub-band generated by the wavelet transform and weighting coefficients derived
from the analyzed motion information.

Claims 26-27. (canceled)